

CLAIMS

1. (Original) A geothermal heating and/or cooling system comprising:
 - a first pipe disposed underground and having a first end and a second end;
 - a second pipe disposed underground and having a first end and a second end;
 - the first end of the first pipe being in fluid communication with the first end of the second pipe;
 - a heat exchanger having a fluid inlet and a fluid outlet;
 - the second end of the first pipe being in fluid communication with the outlet of the heat exchanger and the second end of the second pipe being connected to the inlet of the heat exchanger; and
 - said first and second pipes are spaced apart by a predetermined distance and are integrally attached by an integral attachment to each other along the at least a portion length thereof.
2. (Original) The geothermal heating and/or cooling system of claim 1 wherein the first pipe, second pipe, and the integral attachment are one piece.
3. (Previously presented) The geothermal heating and/or cooling system of claim 2 wherein said first pipe, second pipe, and integral attachment is an extruded product.
4. (Previously presented) The geothermal heating and/or cooling system of claim 3 wherein the first and second pipes and the integral attachment are extruded from a material comprising polyethylene.

5. (Original) The geothermal heating and/or cooling system of claim 4 wherein the integral attachment has openings therein.

6. (Original) The geothermal heating and/or cooling system of claim 4 wherein the integral attachment is continuous between the first and second pipes for a substantial distance of the first and second pipes.

7. (Currently Amended) Geothermal apparatus comprising:
a first pipe for receiving a heat exchange fluid therein;
a second pipe for receiving a heat exchange fluid therein;
a web integrally connected to each of the first and second pipes for holding the second pipe a predetermined distance from the first pipe; and
wherein at least a portion of each of the first pipe, the second pipe and the web are disposed underground at said predetermined distance apart.

8. (Original) The apparatus of claim 7 wherein the first and second pipes and the web are extruded from a material comprising polyethylene.

9. (Original) The apparatus of claim 7 wherein the web has openings therein.

10. (Original) The apparatus of claim 7 wherein the web is continuous.

11. (Original) The apparatus of claim 7 wherein said first and second pipes are operably attached to a heat exchanger.

12. (withdrawn) A method of using geothermal pipe comprising:
a first pipe for receiving a heat exchange fluid therein;
a second pipe for receiving a heat exchange fluid therein; and
a web integrally connected to each of the first and second pipes for holding the second pipe a predetermined distance from the first pipe;

a heat exchange having an inlet and outlet fluidly connecting one of the adjacent ends of the first and second pipes together;

using directional drilling equipment having a drilling head to bore a hole in the ground and then up out of the ground;

operatively attaching the other adjacent ends of the pipes to the drilling head after the drilling head has emerged up out of the ground;

pulling the drilling head back into the ground through the hole that was drilled in the ground until the one end of the pipes which are fluidly connected together are at a desired place in the hole;

fluidly connecting the other end of the first pipe to the heat exchanger inlet;

fluidly connecting the other end of the second pipe to the heat exchanger outlet whereby heat can be exchanged between the ground and the heat exchanger.

13. (withdrawn) The method of claim 12 wherein a grout material is released into the hole as the drilling head is pulled back through the hole.

14. (withdrawn) The method of claim 13 including choosing that the grout material is bentonite.

15. (Previously presented) The apparatus of claim 7 wherein the first pipe, second pipe and web are constructed of a material flexible enough to be rolled onto or off of a reel.

16. (Previously presented) The apparatus of claim 7 wherein the first pipe, second pipe and web are disposed on a reel.

17. (Currently Amended) The apparatus of claim 1 wherein at least a portion of the first pipe, second pipe and ~~web~~ integral attachment are disposed underground.